AMENDMENTS TO THE CLAIMS

1. (Original) A method in a computing system for updating the availability status attributed to predefined groups of offered items, comprising:

initializing a FIFO queue of item groups to be empty;

receiving a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed;

in response to each received message:

identifying any item groups containing the identified item;

for each identified item group:

if the identified item group is not present in the queue of item groups, appending the item group to the queue;

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removing the item group from the queue of item groups;

updating the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, setting a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, setting a timer having a second duration that is shorter than the first duration.

2. (Original) The method of claim 1 wherein the updating includes intersecting the availability statuses of the items within the item group.

3. (Original) The method of claim 1 wherein identifying any item groups containing the identified item includes accessing a list of item groups indexed by the items that they contain.

4-23. (Cancelled)

24. (Amended) A method in a computing system for updating availability information for group items each containing one or more individual items, comprising:

detecting each of a plurality of changes to availability information of individual items;

in response to each detected change to availability information of an individual item:

identifying group items containing the individual item; and

updating availability information of each of the identified group items using the current availability information for each of the individual items contained by the group,

wherein the updated availability information includes at least one of the following:

the number of units available to sell in the closest time bucket;

the identify of the closest time bucket in which units will be available to sell;

the range of error in the time bucket;

the source of the units that are available to sell;

whether units can be replenished if more are needed than are in the first time bucket;

a source from which units can be replenished if more are needed than are in the first time bucket;

the replenishment cycle for the item;

whether the item is suspended from sale; and

when stock in the item is expected to be exhausted.

25. (Original) The method of claim 24 wherein the detecting and identifying is performed in a first process, and wherein the updating is performed in a second process distinct from the first process.

26. (Original) The method of claim 24 wherein the detecting and identifying is performed by a first daemon, and wherein the updating is performed in a second daemon distinct from the first daemon.

27. (Original) The method of claim 24 wherein the detecting includes transmitting an asynchronous message for each detected change to availability information of an individual item.

28. (Original) The method of claim 27 wherein the identifying and updating is performed in response to receiving the transmitted asynchronous message.

29. (Original) The method of claim 24 wherein the detecting includes broadcasting to a plurality of recipients an asynchronous message for each detected change to availability information of an individual item.

30. (Original) The method of claim 24, further comprising adding the identified group items to a group item queue if not already present in the group item queue.

31. (Original) The method of claim 30 wherein availability information of group items in the group item queue is updated when a scheduling mechanism triggers the updating.

32. (Original) The method of claim 24 wherein the identifying and updating is performed immediately in response to the each detected change to availability information of an individual item.

33. (Original) The method of claim 24 wherein the identifying and updating is performed at a time later than each detected change to availability information of an individual item.

34. (Original) The method of claim 24 wherein the detecting includes receiving asynchronous messages each describing a cause for modifying availability information of an individual item.

35. (Original) The method of claim 24, further comprising, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmitting an asynchronous message indicating the updated availability information for the group item.

36. (Cancelled)

37. (Original) The method of claim 24, further comprising broadcasting to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

38. (Cancelled)

39. (New) A computer-readable medium whose contents cause a computing system to perform a method for updating the availability status attributed to predefined groups of offered items, the method comprising:

initializing a FIFO queue of item groups to be empty;

receiving a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed;

in response to each received message:

identifying any item groups containing the identified item;

for each identified item group:

if the identified item group is not present in the queue of item groups, appending the item group to the queue;

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removing the item group from the queue of item groups;

updating the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, setting a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, setting a timer having a second duration that is shorter than the first duration.

40. (New) The computer-readable medium of claim 39 wherein the updating includes intersecting the availability statuses of the items within the item group.

41. (New) The computer-readable medium of claim 39 wherein identifying any item groups containing the identified item includes accessing a list of item groups indexed by the items that they contain.

42. (New) A computing system for updating the availability status attributed to predefined groups of offered items, comprising:

an initialization subsystem that initializes a FIFO queue of item groups to be empty;

a receiving subsystem that receives a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed;

a message processing subsystem that, in response to each received message:

identifies any item groups containing the identified item;

for each identified item group:

if the identified item group is not present in the queue of item groups, appends the item group to the queue;

a timer; and

a queue processing subsystem that,

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removes the item group from the queue of item groups;

updates the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, sets a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, sets a timer having a second duration that is shorter than the first duration.

43. (New) The computing system of claim 42 wherein the updating performed by the queue processing subsystem includes intersecting the availability statuses of the items within the item group.

44. (New) The computing system of claim 42 wherein the identification of any item groups containing the identified item performed by the message processing subsystem includes accessing a list of item groups indexed by the items that they contain.

45. (New) A computer-readable medium whose contents cause a computing system to perform a method for updating availability information for group items each containing one or more individual items, the method comprising:

detecting each of a plurality of changes to availability information of individual items;

in response to each detected change to availability information of an individual item:

identifying group items containing the individual item; and

updating availability information of each of the identified group items using the current availability information for each of the individual items contained by the group,

wherein the updated availability information includes at least one of the following:

the number of units available to sell in the closest time bucket;

the identify of the closest time bucket in which units will be available to sell;

the range of error in the time bucket;

the source of the units that are available to sell;

whether units can be replenished if more are needed than are in the first time bucket;

a source from which units can be replenished if more are needed than are in the first time bucket;

the replenishment cycle for the item;

whether the item is suspended from sale; and

when stock in the item is expected to be exhausted.

46. (New) The computer-readable medium of claim 45 wherein the detecting and identifying is performed in a first process, and wherein the updating is performed in a second process distinct from the first process.

47. (New) The computer-readable medium of claim 45 wherein the detecting and identifying is performed by a first daemon, and wherein the updating is performed in a second daemon distinct from the first daemon.

48. (New) The computer-readable medium of claim 45 wherein the detecting includes transmitting an asynchronous message for each detected change to availability information of an individual item.

49. (New) The computer-readable medium of claim 45 wherein the identifying and updating is performed in response to receiving the transmitted asynchronous message.

50. (New) The computer-readable medium of claim 45 wherein the detecting includes broadcasting to a plurality of recipients an asynchronous message for each detected change to availability information of an individual item.

51. (New) The computer-readable medium of claim 45, the method further comprising adding the identified group items to a group item queue if not already present in the group item queue.

52. (New) The computer-readable medium of claim 51 wherein availability information of group items in the group item queue is updated when a scheduling mechanism triggers the updating.

53. (New) The computer-readable medium of claim 45 wherein the identifying and updating is performed immediately in response to the each detected change to availability information of an individual item.

54. (New) The computer-readable medium of claim 45 wherein the identifying and updating is performed at a time later than each detected change to availability information of an individual item.

55. (New) The computer-readable medium of claim 45 wherein the detecting includes receiving asynchronous messages each describing a cause for modifying availability information of an individual item.

56. (New) The computer-readable medium of claim 45, the method further comprising, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmitting an asynchronous message indicating the updated availability information for the group item.

57. (New) The computer readable medium of claim 45, the method further comprising broadcasting to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

58. (New) A computing system for updating availability information for group items each containing one or more individual items, comprising:

a detection subsystem that detects each of a plurality of changes to availability information of individual items;

an updating subsystem that, in response to each detected change to availability information of an individual item:

identifies group items containing the individual item; and

updates availability information of each of the identified group items using the current availability information for each of the individual items contained by the group,

wherein the updated availability information includes at least one of the following:

the number of units available to sell in the closest time bucket;

the identify of the closest time bucket in which units will be available to sell;

the range of error in the time bucket;

the source of the units that are available to sell;

whether units can be replenished if more are needed than are in the first time bucket;

a source from which units can be replenished if more are needed than are in the first time bucket;

the replenishment cycle for the item;

whether the item is suspended from sale; and

when stock in the item is expected to be exhausted.

59. (New) The computing system of claim 58 wherein the detecting performed by the detection subsystem includes transmitting an asynchronous message for each detected change to availability information of an individual item.

60. (New) The computing system of claim 59 wherein the identifying and updating is performed in response to receipt of transmitted asynchronous message by the detection subsystem

61. (New) The computing system of claim 58, further comprising a group item queue to which the updating subsystem adds the identified group items if not already present in the group item queue.

62. (New) The computing system of claim 58, further comprising a transmission subsystem that, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing

the individual item, transmits an asynchronous message indicating the updated availability information for the group item.

63. (New) The computing system of claim 58, further comprising a broadcasting subsystem that broadcasts to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.